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1. Audio apparatus comprising a modulator for modulating a first ultrasonic signal with an audio signal to provide a second ultrasonic signal; a transducer for converting the second ultrasonic signal into an ultrasonic pressure wave for transmission into a non-linear medium to allow demodulation of the ultrasonic pressure wave and thereby generate an audio pressure wave representative of the audio signal; processing means for modifying the audio signal to compensate for the demodulating properties of the non-linear medium; and means for modifying the audio signal to compensate for the conversion characteristics of the transducer.
 2. Audio apparatus according to claim 1, wherein the first ultrasonic signal is amplitude modulated with the audio signal.
 3. Audio apparatus according to claim 1, wherein the first ultrasonic signal is equal to or greater than 40 kHz.
 4. Audio apparatus according claim 1, wherein the processing means comprises a double integration filter and a square root operator.
 5. Audio apparatus according to claim 4, wherein the means for modifying is disposed between the double integration filter and the square root operator.
 6. Audio apparatus according to claim 1, wherein the means for modifying is a digital filter.
 7. Audio apparatus according to claim 1, wherein the characteristics of the means for modifying are empirically derived by tone adjustment.

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